

Regional STEM Mentoring Program

NorCal STEM Education Foundation: Report for Summer Program 2015

THE PROGRAM

The Regional STEM Mentoring (RSM) Program aims to encourage and empower students to explore their interests in scientific, technological, engineering, and mathematical (STEM) subjects through inquiry-based learning and exposure to real world issues.

The RSM Program was installed during a summer school program organized by People Reaching Out (PRO), a non-profit organization aimed at improving futures through education. The program was called Summer Learning Ability Benefit, abbreviated Summer L.A.B. The NorCal STEM Education Foundation partnered with PRO as a sponsor of the program and provided the RSM Program as part of the commitment. The Program ran from June 23 to July 30.

Summer L.A.B brought together students from 16 schools in the greater Sacramento area. The RSM Program within the overall program began with 30 students ranging in grades 7-12 and 4 mentors. The program grew to serve 34 students by the end of program date. The mentors who volunteered came from different backgrounds and were able to mentor the students using each of their own unique skill sets.

THE PURPOSE

The Regional STEM Mentoring Program's overall purpose is to build a stronger, more prepared and diverse STEM workforce. Important objectives of the RSM Program were to help students develop collaboration skills with peers and adults, and inspire students to pursue STEM degrees and careers. The RSM Program aimed to accomplish this by supplementing STEM curriculum, using trained STEM professional mentors to guide teams of students and for those students to participate in a culminating rewarding event, such as a STEM fair or other showcase event.

THE OVERVIEW: SUMMER L.A.B

The Program was installed within the Summer L.A.B for an average of 2 hours per day for 3 days a week. The RSM Program delivered pre-evaluation surveys to the students during the first meeting in order to determine student interest and emotion towards STEM. Many participants related that they felt unprepared to attempt to conduct a STEM experiment on their own. Through the pre-evaluations it was recorded that only 47% of students were interested in choosing STEM subjects as an elective.

These results from the pre-evaluations indicated that students were disinterested and uncompelled to attempt to make choices when it came to their own learning pathway. STEM would need to be shown to them as a viable career pathway that was in fact interesting and made a difference in their everyday worlds.

Thus, the Program introduced students to mentors who have had winding career pathways - who were not always set on the idea that they would end up in a STEM-related career. Mentors showcased their enthusiasm towards their careers and how they affect everyday issues. Two of the mentors expressed their environmental

PROGRAM OVERVIEW

Schools:	Samuel Jackman Toby Johnson Elizabeth Pinkerton Joseph Kerr Arden Middle CA Montessori Oak Park Prep TR Smedburg Albiani Middle Sheldon High St. Francis Valley High SAVA Dos Palos High Laguna Creek
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Number of students:	30-34
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Total Mentoring Hours:	39
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Interest in STEM & Program:	Increase of 37%
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Gender Split:	47% Male 53% Female
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Asian/Pacific Islander	29.4%
African American	35.3%
Latino	14.7%
Caucasian	8.8%
Native American	0%
Other	11.7%

Students in program from Free/Reduced lunch:	46%
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STEM teaches me how to build and create things that can be great for the future.
 - GINNA, GRADE 9

impact and the others showcased how their work affected sights unseen - within software and mathematics. Students engaged in frequent hands-on activities and were able to connect the experiments to their own learning. Students also participated in a culminating event - a STEM showcase - where they presented their STEM projects to their parents and the public.

In this way, students applied tangible successes to their own experiments and developed a positive outlook towards their ability to produce hypotheses and data. Through the Regional STEM Mentoring Program, key educational issues were addressed for this group of participants who were impacted positively. At the end of the program, the students reported in the post-

evaluations that 71% would like to take STEM as an elective and 43% of the students would feel comfortable conducting their own STEM experiments outside of class time. Thus, it can be interpreted that the students who once felt disconnected from STEM and incapable of conducting experiments on their own were positively affected enough to develop a self-confidence and interest not only in STEM subject areas but also in their own learning and their power to drive it forward into STEM areas. The mentors and program were successfully installed.

IMPACT

The RSM Program provides quality opportunities and experiences to all students, particularly those in statistically underserved communities in STEM – mainly minorities and women, especially in low socioeconomic areas. Exposure to STEM opportunities will promote interest in areas the students may never have considered without participation in the RSM Program. Student participation in the Program will increase the interest and pursuit of STEM-related higher education studies, eventually leading to a stronger, more diverse STEM workforce.

Self-confidence & Self-efficacy	Positive Peer Relationships
Interest in STEM & school	Meaningful Participation
Empathy & Social Skills	Exposure to real-world issues
Positive Adult Relationships	Positive Role Models, gender

THE FUTURE

The Foundation will continue to apply for grants and seek funding sources for the Program. The Foundation will also continue to partner with other programs throughout the upcoming school year to host the mentoring program within already established and funded programs.

Finally, the Foundation will seek out partnerships that will benefit the organizations mutually to include aspects such as free/reduced lunch programs, more diverse students and low income area students.